

**Abstract**

Methods and compositions are provided for extending the clinical utility of IFN- $\alpha$  in the treatment of a variety of viral and proliferative disorders. Among other aspects, the invention provides methods which increase the efficacy of IFN- $\alpha$  treatment and reduce IFN- $\alpha$  treatment-related side effects. In addition, methods are provided for supporting the survival and for activating natural interferon producing cells (IPCs) *in vitro* without exogenous IL-3 or GM-CSF. The invention is based on the discovery that certain CpG and non-CpG ISNAs promote survival and stimulation of IPCs.

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